



# **General Certificate of Secondary Education June 2010**

**Geography A**

**40301F**

**Fountain Tier**

**Unit 1**

<b><i>Mark Scheme</i></b>
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Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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## **GENERAL GUIDANCE FOR GCSE GEOGRAPHY ASSISTANT EXAMINERS**

### **Quality of Written Communication**

Where candidates are required to produce extended written material in English, they will be assessed on the quality of written communication.

#### **Candidates will be required to:**

present relevant information in a form and style that suits its purpose;  
ensure that text is legible and that spelling, punctuation and grammar are accurate;  
use specialist vocabulary where appropriate.

### **Levels Marking - General Criteria**

Where answers are assessed using a level of response marking system the following general criteria should be used.

#### **Level 1: Basic**

Knowledge of basic information  
Simple understanding  
Little organization; few links; little or no detail; uses a limited range of specialist terms  
Reasonable accuracy in the use of spelling, punctuation and grammar  
Text is legible.

#### **Level 2: Clear**

Knowledge of accurate information  
Clear understanding  
Organised answers, with some linkages; occasional detail/exemplar; uses a good range of specialist terms where appropriate  
Considerable accuracy in spelling, punctuation and grammar  
Text is legible.

## Annotation of Scripts

One tick equals one mark, except where answers are levels marked (where no ticks should be used). Each tick should be positioned in the part of the answer which is thought to be credit-worthy.

Where an answer is levels marked the examiner should provide evidence of the level achieved by means of annotating 'L1', 'L2' or 'L3' in the left hand margin.

The consequent mark within this level should appear in the right-hand margin.

Ticks must not be used where an answer is levels marked.

Examiners should add their own brief justification for the mark awarded e.g. *Just L3, detail and balance here.*

Where an answer fails to achieve Level 1, zero marks should be given.

The following is a list of the unit-specific annotations available on the CMI+ system:

c	- case study	m	- managed
desc.	- describe	r	- restored
exp.	- explain	ev.	- evidence
adv.	- advantages	env.	- environmental
dis.	- disadvantages	ec.	- economic

## General Advice

Marks for each sub-section should be added in the right-hand margin next to the maximum mark available which is shown in brackets. All marks should then be totaled in the 'egg' at the end of each question in the right-hand margin. The totals should then be transferred to the boxes on the front cover of the question paper. These should be totaled. The grand total should be added to the top right-hand corner of the front cover. No half marks should be used.

It is important to recognize that many of the answers shown within this mark scheme are only exemplars. Where possible, the range of accepted responses is indicated, but because many questions are open-ended in their nature, alternative answers may be equally creditworthy. The degree of acceptability is clarified through the Standardisation Meeting and subsequently by telephone with the Team Leader as necessary.

Diagrams are legitimate responses to many questions and should be credited as appropriate. However, contents which duplicate written material or vice versa should not be credited.

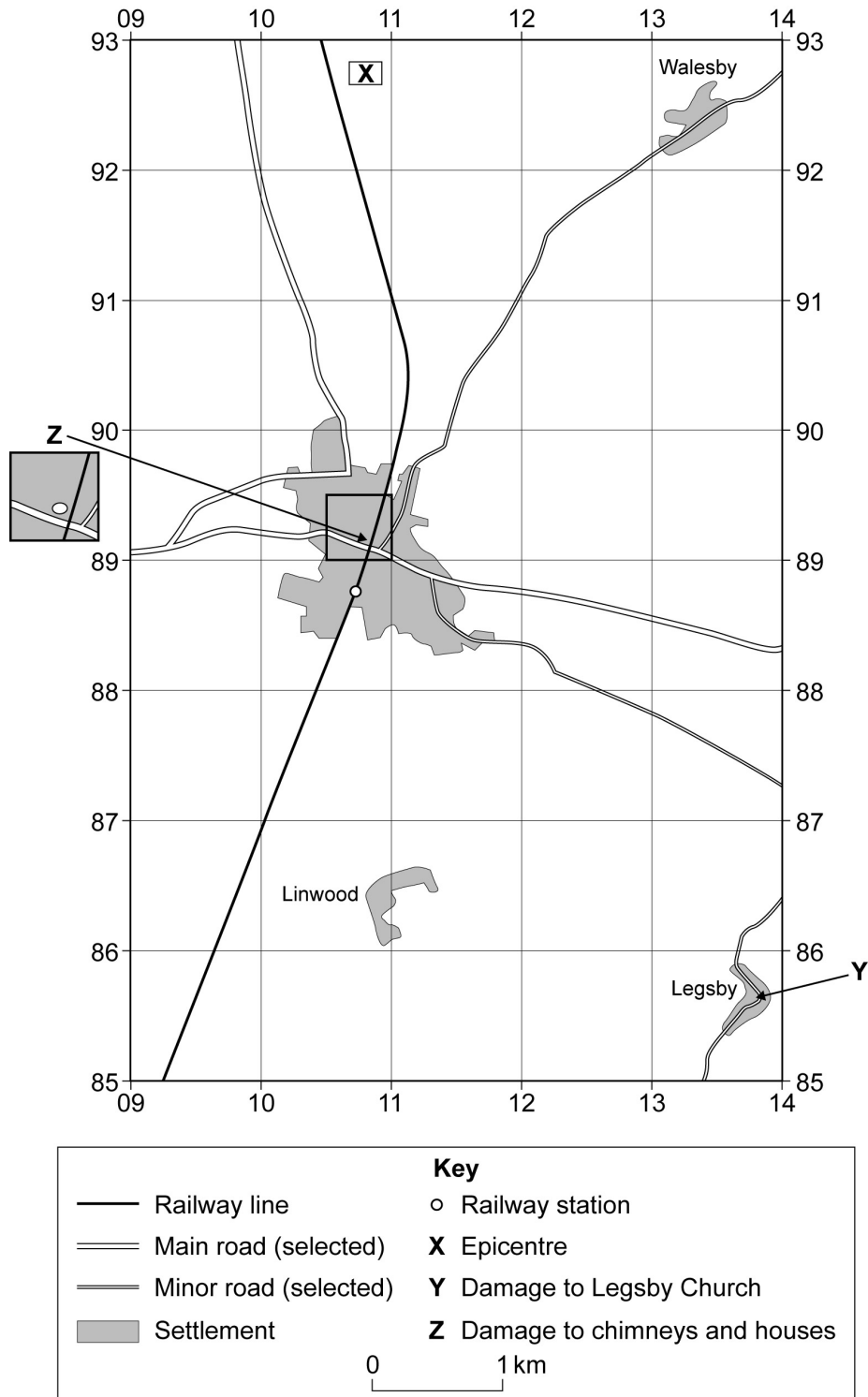
Quality of Written Communication (QWC) is part of the award of marks in levels marked answers only. In levels marked answers the quality of the geography is assessed and a level and mark awarded according to the geography. As is sometimes the case, the geography may be sound at a particular level but the examiner may not be sure as to whether there is quite enough to raise the mark within that level. In this case the examiner should consider the QWC of the answer. QWC that fulfils the criteria for the level should lead to the rise in the mark but where the QWC does not fulfil the criteria, the answer should remain at the mark first thought appropriate. In cases where QWC has been used in the award of marks, the examiner should indicate this with QWC and arrows that indicate either an upward or downward trend according to its impact on the final award of the mark.

**SECTION A**

**Question 1: The Restless Earth**

- 1 (a) (i) Earthquakes occur in lines - **True** (3 marks)  
Earthquakes never occur away from plate boundaries - **False** AO2 – 2  
Earthquakes occur around the edge of the Pacific Ocean - **True** AO3 – 1
- 1 (a) (ii) Destructive. (1 mark)  
AO1 – 1
- 1 (a) (iii) ...plates move **parallel with** each other. (4 marks)  
They **slide past** each other  
...often stick and **pressure** builds up AO1 – 4  
...causes a **jerking** movement.

- 1 (b) (i)** Centre of X accurately located as shown in box – 2 marks. If X within area bounded by northing 92 & 93 and railway line, and easting 11 (or centred on them) – 1 mark. **(2 marks)**
- AO2 – 1**  
**AO3 – 1**
- 1 (b) (ii)** Y accurately located – 1 mark. Z accurately located (as shown in 'close-up' box by Z label below) – 2 marks. (NB should not touch railway or road. If Z label placed directly on map use position at centre of 'Z'). If Z located inaccurately but in south east corner of grid square – 1 mark. **(3 marks)**
- AO2 – 1**  
**AO3 – 2**



- 1 (b) (iii)** Figure 2 shows that the epicentre occurred in a rural area/field so damage expected to be less than if it had been in a built up area. Also, it measured 5.2 on the Richter scale. This is strong for UK, but many earthquakes occur of this strength worldwide each year. The buildings are well built and can withstand earthquakes of this strength. There should be an understanding of the location from the map and the meaning of the score on the Richter scale and these points may be linked. **(4 marks)**
- AO1 – 2**  
**AO2 – 1**  
**AO3 – 1**
- Level 1 (Basic) (1-2 marks)**  
Simple listed points.  
Descriptive – of location and/or Richter scale.  
*Measured 5.2. Happened in middle of nowhere – near a wood.*
- Level 2 (Clear) (3-4 marks)**  
Specific reference to map needed. Reference to own knowledge.  
Points are developed and linked.  
Links the location and/or the Richter scale score to the limited amount of damage.  
*Epicentre in a rural area/field so damage less than if it had been in a built up area. It only measured 5.2 on the Richter scale. This is not a strong earthquake generally, although it is for UK.*
- 1 (c) (i)** Idea what a secondary effect is for, 1 mark, and reason why for 1 mark. Secondary effect is an effect that occurs later/is a knock-on effect (1) resulting from the earthquake a primary effect (1). The earthquake displaced sea water (1) + (1) for further development, e.g. which moves towards the land, gaining in height in its final approach. **(2 marks)**
- AO1 – 2**

1 (c) (ii)	<p>Actual content will depend on the case study being used – Boxing Day tsunami of 2004 is likely to be used. Expect reference to either whole area affected or a focus on just one country – either approach is permissible.</p> <p>There may be some categorisation – such as the initial impact of the wave – speed/height of approach – People being injured, number of deaths, trying to save people, large numbers missing and people searching for lost relatives and friends – Many people homeless, vast amount of property damaged; whole settlements wiped out; risk of disease; impact on farming, tourism.</p> <p><b>Level 1 (Basic) (1-4 marks)</b>  Describes effects of a tsunami.  Statements are general in a random order.  <i>Lots of people died, a lot were drowned or hurt by the water's power. Buildings were destroyed. People tried to run out of the way. In some places whole places were destroyed.</i></p> <p><b>Level 2 (Clear) (5-6 marks)</b>  Effects are clearly described, in an organised way.  Statements are linked.  There is clear reference to the case study named – must be present.  <i>In places like Banda Aceh in Sumatra, the huge wave – over 20m – wiped out complete settlements. People fled as the wave approached. Lots died – over 22000. People began to try to find relatives and friends, often searching the streets littered with dead bodies. The risk of diseases such as cholera grew rapidly.</i></p>	<p><b>(6 marks)</b></p> <p><b>AO1 – 3</b>  <b>AO2 – 3</b></p>
<b>Total</b>		<b>25 marks</b>

## Question 2: Rocks, Resources and Scenery

- 2 (a) (i) Era represents a longer time than a Period (1) + 1 for giving figures as evidence, e.g. Cenozoic period about 65 million years (1) is more than Quaternary period – less than 10 million years (1). Era is divided into periods (1). Era is overall title – that is then split (1). (2 marks)
- AO1 – 1  
AO2 – 1

- 2 (a) (ii) 3×1 (3 marks)
- Period** - Permian.  
**Rock Type** – Limestone.  
**Age (millions of years)** - 145 - 65 or 65 - 145
- AO1 – 1  
AO2 – 1  
AO3 – 1

- 2 (a) (iii) Sedimentary. (1 mark)
- AO1 – 1

- 2 (b) Any three characteristics of rock and landscape that is visible from the photograph. Rock features such as bedding plane layers, joint cracks, the grey colour of limestone, the water marks running through it. Landscape features such as overhanging ledge, steep/vertical slope/cliff, bare rock face, the V-shape at the top, scree, random boulders. (3 marks)
- 1 mark for vegetation, if located.  
3×1
- AO1 – 1  
AO2 – 1  
AO3 – 1

- 2 (c) (3 marks)
- AO1 – 3

Type of Weathering	Statement
Freeze thaw	is a type of chemical weathering.
Exfoliation	is when water changes to ice, expands and weakens the rock.
Solution	occurs when plants and animals have an effect on the rock.
Biological weathering	is when layers of rock peel off from the surface.

- 2 (d) (i) Westbury cement works is found in grid square **8852**. (3 marks)
- The works are **north east** of the church...  
The land is **gently** sloping.
- AO2 – 1  
AO3 – 2

- 2 (d) (ii)** Y is a large hole in the ground (about 0.5 sq km) where the rock has been removed from – this is likely to be visible. Dust from the quarry itself is likely to be present, changing the colour of the immediate area. Blasting of the rock is likely to remove it – creating noise. This material must be transported to the works – there are small roads for this – lorries will be noisy. **(4 marks)**
- AO1 – 2**  
**AO2 – 1**  
**AO3 – 1**

**Level 1 (Basic) (1-2 marks)**

Simple statements in no specific order.

May be descriptive of any features.

General points without evidence.

*The quarry is a big hole in the ground. It will be noisy and there will be lots of dust.*

**Level 2(Clear) (3-4 marks)**

Develops statements and makes links.

The response is clearly linked to the question – environmental disadvantages are targeted.

Some specific reference to the map is needed.

*The quarry is about half a square km as it takes up half a square. It is a very large hole in the ground and the bare rock will be visible from the area around it. There are some minor roads near it that will take the rock away. This will mean having to go through Westbury to get to the cement works. These will make it noisy and possibly dirty for residents.*

- 2 (e)** Actual information will depend on case study selected. Likely example is Hope in Peak District – in AQA endorsed textbook. Advantages likely to refer to points such as – the provision of a necessary resource. Hope produces 1.3 million tonnes each year. This is a vital raw material for road building and construction industry. The quarry employs a significant number of people – over 180 in an area where there is a limited number of jobs and limited choice. It offers an alternative to farming and tourism and provides opportunities for young people. It helps to support local services – as the workers spend money in nearby shops. Response should demonstrate specific knowledge of case study and places, facts therefore should be noted. **(6 marks)**
- AO1 – 3**  
**AO2 – 3**

**Level 1 (Basic) (1-4 marks)**

Simple statements, perhaps list like at lower end.

Separate ideas

Generalised statements.

*People will have jobs in the quarry. It will dig out rock that can be used. The workers can spend their money in local shops. School leavers will have more choice of jobs.*

**Level 2 (Clear) (5-6 marks)**

Develops statements and makes links, e.g. between strategy and problem solved.

There is clear reference to the case study.

*At Hope quarry in the Peak District, there are jobs for almost 200 people. They dig out limestone that is used to make cement. This is a really important resource. It is used to build and maintain roads and for houses. Hope produces over 1 million tonnes a year. The jobs are important as there are not many other options and this encourages young people to stay in the area.*

**Total      25 marks**

### Question 3: Challenge of Weather and Climate

- 3 (a) (i)** Temperatures are highest in the **South East**. (3 marks)  
As you move **north** (or **north west**) and **west** (or **south west**), the temperatures fall.  
AO1 – 1  
AO2 – 1  
AO3 – 1
- 3 (a) (ii)** London is warmer due to latitude (1) which means that the angle of the sun is higher (1) so rays travel through less of the atmosphere (1); are spread over a smaller area of the land (1). Further south/nearer equator (1). (2 marks)  
1 for basic recognition of factor / statement and 1 for development factor / statement, or 1x1 for developed point.  
AO1 – 2
- 3 (a) (iii)** Aberystwyth is colder due to impact of sea in summer, closer to the sea (1) as sea warms up more slowly than land it has a cooling effect (1); it is also away from Europe where air coming from here (1) will be warmer due to continental influence (1). (2 marks)  
1 for basic recognition of factor / statement and 1 for development factor / statement or 1+1 for developed point  
AO1 – 2
- 3 (b)** There is reference to May, June and July 2007 being the wettest June since records began in 1760, i.e. 247 years earlier. June was the wettest since 1882 – over 100 years ago. 110mm fell on 25 June – 110mm in 21 hours – approximately 4 - 5mm per hour. Rainfall was very heavy and intense – not what expected in summer month – and this occurred on 2 separate occasions – 14/15 June & 20 – 24 June before 25<sup>th</sup> should recognise exceptional weather, its rarity. (4 marks)  
AO1 – 2  
AO2 – 1  
AO3 – 1

#### Level 1 (Basic) (1-2 marks)

Simple statements providing relevant evidence from Figure 8.

Relies on Figure 8; may copy relevant parts.

Random order.

*May, June and July were the wettest since records began. More rain fell in June 2007 than in any June since 1882.*

#### Level 2 (Clear) (3-4 marks)

Begins to develop points and to link ideas.

Information in Figure 8 is used.

Answer has clear structure – provides evidence and is aware of significance of it.

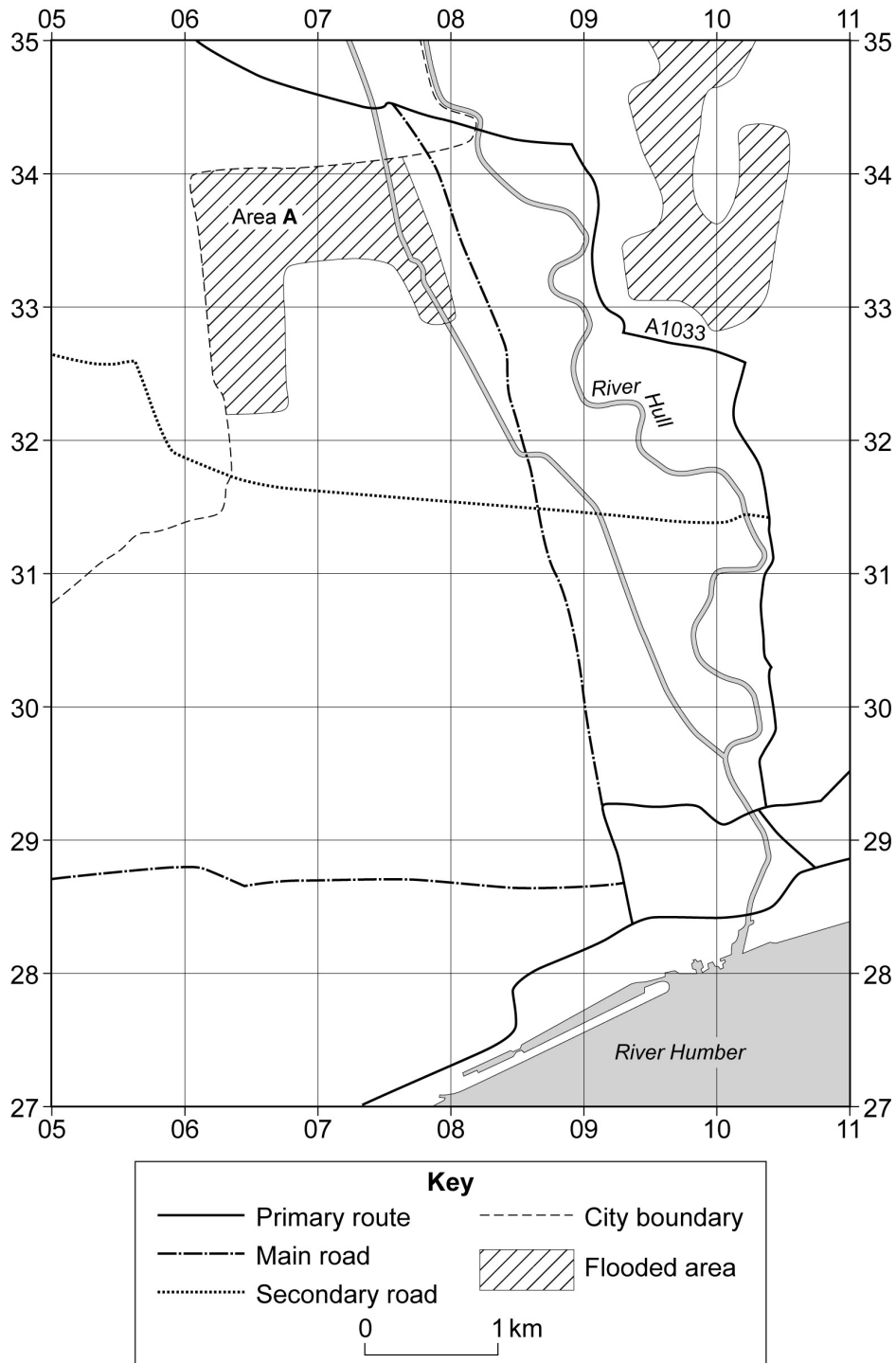
*May, June and July 2007 were the wettest since records began in 1760, i.e. 247 years earlier. June was the wettest since 1882 - over 100 years ago. Both these show extreme weather as both records were broken in 2007. 110mm fell 25 June approx. 5mm per hour. Rainfall was very heavy and intense – not what is expected in July that is a summer month – conditions were not normal and had not occurred for a long time.*

- 3 (c) (i)** Any valid location approximately marked e.g. one whole square 0933/1033, 0934/1034 = 1 mark. Accurate location/shape = 2 where there has been a clear attempt to relate Figure 8 and 9, i.e. shape is wider at base across 4 squares – 2 marks.

**(2 marks)**

**AO2 – 1**

**AO3 – 1**



- |             |   |  |
|-------------|---|--|
| 3 (c) (ii)  | Built-up/housing estate (1). Appears to be a straight drain / canal / stream going through area (1). Housing area quite new as on edge (1). Housing varies – large blocks in north west (1) much smaller in east (1). Minor road and local estate roads serve area (1), many of these are cul-de-sacs (1). Allow 1 for facility/ies present, eg church, cycle path. Allow other physical descriptions e.g. flat land (1). Any 3 valid points 3×1  | <b>(3 marks)</b><br><br><b>AO2 – 1</b><br><b>AO3 – 2</b> |
| 3 (c) (iii) | Bottom floor of houses under water/houses flooded (1). This will be contaminated / full of sewerage/silt (1). Furniture, possessions of sentimental value ruined (1). Likely to have to move out for a while/homeless (1). Roads blocked/under water (1). Unable to get to work/shops/schools (1). Need to claim off insurance/cost a lot to repair (1). May be fearful of flooding again / cause stress (1). Local businesses had to close for a while//loss of custom.  | <b>(3 marks)</b><br><br><b>AO1 – 2</b><br><b>AO2 – 1</b> |
| 3 (d)       | Responses are required at a global/international level. However, within this context, more national/regional strategies may also be appropriate, i.e. a recognition of how targets to reduce emissions may be reached. Thus, switching to renewable sources of energy and relying less on fossil fuels, encouraging conservation of energy, recycling. However, there needs to be some reference to international efforts and recognition of the need for worldwide cooperation if there is to be success – so reference should be made to international agreements such as Kyoto and strategies for looking at worldwide emissions via carbon credits. | <b>(6 marks)</b><br><br><b>AO1 – 3</b><br><b>AO2 – 3</b> |

#### **Level 1 (Basic) (1-4 marks)**

Simple statements, perhaps list like at lower end.

Separate ideas.

There will be an emphasis on local strategies and/or basic reference to international strategies.

*Wind power can be used more than coal and oil. People can use buses rather than their cars. Make people pay to use cars in some busy areas.*

#### **Level 2 (Clear) (5-6 marks)**

Develops statements and makes links.

Aware how strategies will address climate change.

Response is targeted to question – local strategies.

Will be in the context of a worldwide scenario.

International / global strategies will form a clear part of the answer.

*There are agreements between countries to reduce carbon emissions.*

*Many richer countries signed the Kyoto Protocol and agreed targets for their carbon emissions. The G20 London Summit 2009 sought to develop this. All countries have to get together to reduce carbon emissions – pollution spreads out from individual countries.*

*Congestion charging in London tries to get people to use public transport rather than their cars and so reduce pollution. Switching to renewable sources of energy such as wind and water means that less coal and oil will be used, reducing carbon emissions. Countries can reach their targets by doing these things.*

**Total      25 marks**

# Question 4: Living World

4 (a) (3 marks)

Part of ecosystem	Statement	
Producers	eat green plants	AO1 – 3
Herbivores	break down dead plants and animals	
Carnivores	make their own food by photosynthesis	
Decomposers	are the highest level in the food chain	

All 4 correct = 3; 2 correct = 2; 1 correct = 1.

4 (b) (i) Oak trees adapt to the climate by losing their leaves in winter (1) in order to reduce water loss/transpiration (1). Bark on the trees is thick (1) to protect against frost in the winter (1). The leaves are broad in shape/large (1) as rainfall is not high enough to damage them and increases photosynthesis (1). (2 marks)  
AO1 – 1  
AO2 – 1

1+1 for adaptation and purpose.

4 (b) (ii) Roots are long (1) as soil is relatively deep and nutrients are leached down / fertile (1). They are also quite extensive (1) to give the tree support in the soil (1) (2 marks)  
AO1 – 1  
AO2 – 1  
1+1 for adaptation and purpose

4 (c) (i) 4.5kms – 4.6kms = 2 marks; (2 marks)  
4.3kms – 4.4kms and 4.7kms – 4.8kms = 1 mark  
AO3 – 2

4 (c) (ii) Any 3 different recreational activities – need to identify activity from map, e.g. picnics at picnic sites, lunches in pub at High Beach); walking on many tracks/paths in forest/hills, e.g. Three Forests Way; visiting/finding out about the trees and animals at the conservation centre; learning about the ecosystem at the field study centre; fishing in pond/along rivers. (3 marks)  
AO2 – 1  
AO3 – 2  
3×1 for evidence and each different type of activity.

4 (d) Any relevant way in which trees themselves are managed – linked to activity, e.g. in Epping Forest, trees were pollarded (1) where lower branches were removed (1); removing some fallen trees in order to allow light and regrowth (1) but allowing others to remain to return nutrients to the soil (1); felling some trees of a certain age (1); replanting programmes (1); removing or allowing trees to stay following storm damage. (3 marks)  
AO1 – 2  
AO2 – 1  
3×1 or 1 basic point (1) and 1 developed point (1+1).

- 4 (e)** Description should refer to the amount of vegetation cover – more extensive in 13b, but still not complete as areas of bare soil are visible; its location – on valley floor only in 13a but extends further up sides in 13b; its height – relatively low lying, but taller in 13b; its flowering status – many flowers and colours are testimony to variety of species in 13b, whereas no flowers in 13a. There should be a recognition that this is the result of recent rainfall, where seeds that have lain dormant germinate, flower, seed and die in a short life cycle following bursts of rain. **(4 marks)**

**AO1 – 2**  
**AO2 – 1**  
**AO3 – 1**

**Level 1 (Basic) (1-2 marks)**

Simple statements.

These are generalised and separate, but do use photo.

One element – description or explanation is addressed.

If explanation is present, it is simple.

*There are a lot more flowers in 13b. There are more species than in 13a. The desert is colourful and the vegetation cover is greater. It has just rained.*

**Level 2 (Clear) (3-4 marks)**

Develops points.

Linked statements, making use of photo.

Explanation and description are both considered.

*The desert has come to life in 13b. There are many yellow flowers that cover much of the valley floor that were not present in 13a. There seem to be more species as there are more different types of leaves. It has probably rained recently, so seeds that have been there from when it rained before have begun to grow and then flower. This happens quickly so that plants can survive the dry conditions.*

- 4 (f)** Responses will depend on case study selected – likely to be an area such as Sahel or parts of North Africa or South Africa. Likely to depend on case studies in related textbooks. Need to consider how people use the area – nomadic pastoralism = people herding livestock and moving in search of water; settlement at oases; use of water such as Nile for irrigation – small scale and large scale is possible with this; possible development of tourism in countries such as Tunisia, Morocco and Egypt. **(6 marks)**

**AO1 – 3**  
**AO2 – 3**

**Level 1 (Basic) (1-4 marks)**

Simple, general statements, perhaps list like at lower end.

Relates to some use(s). No example or general information for poorer area.

*In the Sahara, people keep cattle. Some move around with their animals. In some areas, there is water. Farmers put it on their land and grow crops. Tourists visit deserts on holiday.*

**Level 2 (Clear) (5-6 marks)**

Develops and links statements.

Relates to more than one use.

There is reference to case study.

*In the Sahara Desert, pastoral nomads keep cattle and other animals such as goats and camels. They travel in search of water in the dry area, but more now stay put. Along the Nile, farmers have taken water from the river to water their fields and grow crops. Many, such as potatoes and cotton, are sold at local markets or exported. Tunisia is an important tourist destination and many holidaymakers include a visit to the desert as part of their visit allowing locals to make a living as tour guides, selling souvenirs etc. Big hotels have opened in places like Tozeur and Douz offering unskilled jobs. Camel rides are a big attraction.*

**Total      25 marks**

## SECTION B

### Question 5: Water on the Land

- 5 (a) (i)** The steepest part of the long profile is nearer the source - **True** (4 marks)  
The cross profile shows the shape of the valley from one side to the other - **True** AO1 – 3  
The cross profile is narrower and deeper near the mouth - **False** AO3 – 1  
Most lateral erosion occurs near the source - **False**  
4x1
- 5 (a) (ii)** Deposition occurs when the river **leaves behind** material. This happens when the speed of the river **decreases** and the river has less **energy**. (3 marks)  
3x1 AO1 – 3
- 5 (b) (i)** Any valid point relating to landform, e.g. steep/vertical drop; descends in two steps / falls; plunge pool visible at base; white water; covers width of valley; gorge visible in foreground/steep sides (3 marks)  
3x1 / 1+(1+1) AO2 – 1  
AO3 – 2
- 5 (b) (ii)** Diagrams likely to be drawn – probably two – to show horizontal band of hard rock over underlying band of soft rock; erosion of softer rock at a faster rate causes an overhang to develop; abrasion and hydraulic action are particularly important erosion processes; material from overhang collapsing increases rate of erosion and waterfall – which plunges over steep drop to retreat (leaving a gorge). (4 marks)  
AO1 – 1  
AO2 – 1  
AO3 – 2
- Level 1 (Basic) (1-2 marks)**  
Simple diagram(s) probably partial.  
Simple labels.  
Order not correct – jumps about.  
Sequence may be incomplete.
- Level 2 (Clear) (3-4 marks)**  
Complete, clear, diagram(s).  
Diagrams illustrate clear labels – that are developed and linked.  
Sequence and formation of waterfall is clear.
- 5 (c) (i)** Peak rainfall for both streams: **15mm**, (3 marks)  
Peak discharge for Clapham Beck: **10 cumecs**,  
Lag time (the time difference between the peak rainfall and the peak discharge) for Austwick Beck: **5½ -6 hours**. AO1 – 1  
3x1 AO2 – 1  
AO3 – 1
- 5 (c) (ii)** Any valid reason (1) +1 for elaboration, e.g. Relief is steep (1) so runoff will be rapid over the surface reducing time it takes to get to stream (1); impermeable rock (1) means water cannot soak in and so flows over land (1). Reference to urban area, vegetation valid. (2 marks)  
1x1+1 AO1 – 1  
AO2 – 1

- 5 (d)** Demand increases as population increases (largely due to net immigration) – so more people will use more water. There is an increase in the number of households, so more of these with more people living separately will increase demand as washing up and cooking and other tasks are carried out more times. Increased wealth means more people have labour-saving devices such as washing machines and increasingly dishwashers, increasing use of water. Similarly, there has been an increase in luxury items such as jacuzzis and steam rooms, swimming pools. Increased water of gardens, washing growing numbers of cars and expecting longer seasons for products such as strawberries, means growing under cover and the need for irrigation. **(6 marks)**
- AO1 – 3**  
**AO2 – 3**

**Level 1 (Basic) (1-4 marks)**

Describes 1 or 2 reasons for increasing demand, with tentative explanation.

Statements may be in a random order and/or separate.

*There are more people living in UK. People wash their cars. They water their gardens. Hosepipes are used. Most people own washing machines and dishwashers. Dishwashers use more water than washing up in a bowl.*

**Level 2 (Clear) (5-6 marks)**

The description is followed by clear attempt to explain.

Refers to two reasons at least.

Statements are developed and linked.

Allow reference to industrial use (e.g. cement, breweries etc), power stations.

*The population of the UK is going up, especially as people move in from other countries. This will mean more water is needed for everyday use such as drinking, cooking, washing. Many households own washing machines and dishwashers. These use much more water than doing these jobs by hand. As people get married later and there are many old individual households, the demand for water goes up as there are less savings due to people sharing houses and having some common use of water.*

**Total 25 marks**

# Question 6: Ice on the Land

- 6 (a) (i) At the time of maximum ice cover **North America** had the largest... (4 marks)  
This extended as far south as **30** degrees north.  
...two separate areas in **southern Europe**, one of which... AO2 – 2  
The extent of ice cover has **shrunk**. AO3 – 2  
4x1

- 6 (a) (ii) **X** – end section of graph.; (3 marks)  
**Y** – 600,000 years ago approx  
**Z** – any of the time periods when warmer than average shown.. AO1 – 1  
AO2 – 1  
AO3 – 1

- 6 (b) Temperatures have clearly fluctuated. The overall trend has been one (4 marks)  
of increase. This has not been gradual. Until approximately 1977,  
temperatures worldwide were below the 1961-90 average. They were AO1 – 1  
below to varying extents – the lowest being 13.5 in 1910 and the AO2 – 1  
highest 14.0 in 1940. After 1940, temperatures fell but not to the same AO3 – 2  
level as previously, being about 0.2 to 0.3 lower than average. The  
rise since 1977 has been stepped and has reached above 14.4.  
Recently the steepness of the rise has reduced.

## Level 1 (Basic) (1-2 marks)

Simple, separate listed points.

May be step by step with detail on limited parts.

Evidence may be present, but seen in context of above.

*Temperatures start off below average. They drop during the 1850s. It gets a bit warmer during the 1860s and 1870s. Then it goes cooler again during 1880s. From 1910 the temperature gets warmer. It almost gets to the average by 1940. Then it gets colder again. It gets warmer during the 1950s. In 1980 it reaches the average. During the 1980s and 1990s the temperatures are above average.*

## Level 2 (Clear) (3-4 marks)

Points are developed and linked.

Has an overview of trends.

Uses evidence to support trends being observed.

*Temperatures fluctuate, but overall they have increased. They were below the 14 degree average until 1980. Then they went above and have generally increased to about 0.4 above the average. There is a slight decline at the end of the graph. Between 1850 and 1950 temperatures were always below the average, but to varying degrees. It was colder during the 1850s and 1860s and then between 1900 and 1920 than the other years. 1920 was the coldest at about 13.5.*

- 6 (c) (i) Abrasion uses material the glacier is carrying/transporting (1). This is (3 marks)  
from the surrounding valley sides (1) as a result of freeze thaw  
weathering (1)/plucking (1). The material is used to grind the sides and AO1 – 3  
floor of the valley (1) like a sandpapering effect so that it is worn away  
(1). Need one of the final two points for all 3 marks.  
3x1

- 6 (c) (ii)** Any two valid glacial landforms, e.g. corries, arêtes, pyramidal peaks, U shaped valley/glacial trough, truncated spurs, ribbon lake, hanging valley. Likely that corrie and glacial trough will be most frequent answers.  
2×1 **(2 marks)**  
**AO1 – 2**
- 6 (d) (i)** Attractions will depend on area selected. Likely responses are steep sided, angular/jagged peaks; steep, deep (U-shaped) valleys; lakes in low-lying areas; cable car rides up to mountains; skiing – downhill and cross-country, snowboarding; walking during summer; rock climbing; rides on funicular railways/mountain railways.  
The command is to 'describe', not 'list' – 1 only for this. Attractions need to be different to be creditworthy.  
3×1 **(3 marks)**  
**AO1 – 2**  
**AO2 – 1**
- 6 (d) (ii)** Actual content will depend on case study. This is likely to be determined by those covered in textbooks.  
Likely to focus on trying to reduce impact of tourism on the environment – specifically the mountainsides and settlements, but also the quality of air and congestion and the impact on local people. The safety of tourists is also important. Likely to consider marking out ski runs clearly and their level of difficulty for safety, as well as the need to monitor avalanche hazard and take appropriate action. Having electricity pylons underground. Reducing the impact of facilities for skiing by planting trees, using local building materials. By ensuring paths are clearly marked and people are encouraged to stay on them. Providing sustainable transport – low cost/free rather than use of cars. Involving local people in decisions taken.  
**(6 marks)**  
**AO1 – 3**  
**AO2 – 3**

#### **Level 1 (Basic) (1-4 marks)**

Describes ways tourism can be managed at least one way.

Statements may be in a random order.

Information is general.

*Ski runs are marked out for visitors. Hotels cannot be built anywhere.*

*They have to make them blend in with surroundings. They cannot look ugly. Avalanches can kill skiers. They try to stop these from happening.*

#### **Level 2 (Clear) (5-6 marks)**

Two ways are considered, with an understanding of how they address problems / why they are used.

Statements are linked and developed.

Case study is clearly used.

*Ski runs are grouped according to how hard they are so people know which runs they can cope with. Safety is important. Skiers are at risk from avalanches. Ski runs are closed if there is a risk. Small explosions are used to trigger controlled avalanches to reduce the risk. In Chamonix, visitors travel free on clean energy buses. The Tomorrow's Valley policy results in buildings being made of materials that blend with the surrounding area. Trees are planted to 'hide' the skiing activity.*

**Total 25 marks**

### Question 7: Coastal Zone

- 7 (a) (i) Slumping occurs when material moves downhill along a curved surface - **True** (2 marks)  
Sliding occurs when loose material shifts down a slope - **False** AO1 – 2
- 7 (a) (ii) Correct identification of: (3 marks)  
Feature **X** – rocky beach, wave cut platform, rockfall AO1 – 1  
Feature **Y** – sea stack, stump AO2 – 1  
Feature **Z** – cliff AO3 – 1  
3x1
- 7 (a) (iii) Any valid statement that relates to individual diagrams, e.g. (4 marks)  
For first diagram – waves attack between lwm and hwm; base of cliff eroded; AO2 – 2  
For second diagram – base of cliff eroded / wave cut notch formed; AO3 – 2  
For third diagram – notch gets bigger / cliff overhang / cliff liable to collapse;  
For fourth diagram – overhang collapses / cliff retreats / wave cut platform is formed.  
4x1
- 7 (b) (i) Increase in sea level due to melting of ice sheets (1) +1 for detail on locations of these (1). Recognition that this will remove water stored in a frozen state (1) on land and enable it to flow to the sea increasing amount of water in the sea (1). May relate to underlying cause – global warming (1) and causes of this, e.g. increase in carbon dioxide (1) and reasons for this (1). Sea water expands (with increasing temperature). (3 marks)  
3x1 AO1 – 3
- 7 (b) (ii) Content will depend on example used. Expect reference to London and Thames and other low lying coastal areas of England; (4 marks)  
Netherlands; Bangladesh; islands in Indian Ocean such as Maldives; AO1 – 3  
Nile Delta. Examples will depend on textbooks. Economic effects AO2 – 1  
likely to relate to loss/damage to areas/businesses/food crops in subsistence economy; cash crops/exports; impact on tourism; need to try to protect and costs incurred in this.

#### Level 1 (Basic) (1-2 marks)

Simple, listed points.

Will refer to some effects maybe drift into non-economic ones.

*Crops will be destroyed. People will lose their food supply and land.*

*They will have nowhere to live. Parts of cities will be flooded.*

*Businesses will be lost and people will lose their jobs.*

#### Level 2 (Clear) (3-4 marks)

Points are developed and linked.

Focus on economic effects.

Refers to case study.

*As sea level rises, low lying parts of the UK will be flooded. Parts of the fertile Fens will be lost and people will lose their businesses. Crop production will fall – cereals and vegetables will be affected. Areas next to the Thames in London, including the Houses of Parliament will be flooded. The City will be affected and jobs could be lost. It will cost a lot of money to try to protect the coast from rising sea levels – in order of £10 billion.*

- 7 (c) (i) Need to use information from Figure 23. Beach is being eroded so there is no protection (1) – base of sea wall exposed (1). Sea wall is old and so easily eroded (1) as constant pounding of waves weakens it (1). Groynes are also inadequate – gaps in them mean material can be moved (1) so longshore drift able to occur (1) and protection given by beach is gone (1).  
3×1

**(3 marks)**

**AO2 – 1**

**AO3 – 2**

- 7 (c) (ii) Hard engineering includes sea walls, groynes and rock armour as stated in specification, but reference may also be made to gabions, revetments etc.  
Benefits of hard engineering – likely to be effective. The area behind will be protected; land stable and income, such as from tourism, will be safeguarded.  
Costs of hard engineering – they are expensive – going into millions of pounds; they need maintaining – sea walls cost up to £5000 per metre to repair. They have a visual impact on the environment. They interfere with natural processes and may cause problems somewhere else.

**(6 marks)**

**AO1 – 3**

**AO2 – 3**

**Level 1 (Basic) (1-4 marks)**

Describes either costs and/or benefits.

Statements may be in a random order.

Ideas are separate.

*There are disadvantages. They cost a lot. Sea walls and groynes can look ugly. They generally work. The places are protected. This is a benefit.*

**Level 2 (Clear) (5-6 marks)**

Describes costs and benefits.

Clear organisation, focused on task.

Statements are linked.

*Hard engineering is expensive. It cost £50 million to build a new sea wall and to place rock armour in front of it at Scarborough. It is very obvious and can make areas look worse. Building groynes holds the sand in place to protect the coast where they are, but it can mean that there is faster erosion down the coast.*

*The methods do tend to work and people's homes and jobs are safe.*

*Residents do not have to face uncertainty about not being protected.*

**Total 25 marks**